

Amendments to the Claims:

The following Listing of Claims will replace all prior versions, and listings, of claims in the application:

1. – 32. (Cancelled)

33. (Currently amended) The method of claim 60, ~~further comprising modifying wherein modulating the pacing interval comprises randomly altering a delivery time of the pacing pulses to aid in detecting whether an autonomous intrinsic signal component is present within the heart.~~

34. (Currently amended) The method of claim ~~[[33]]~~ 60, wherein ~~modifying modulating~~ the pacing interval includes modulating an atrial to ventricular pacing delay.

35. (Previously presented) The method of claim 60, wherein the subsequently delivered pacing pulse comprises a pacing pulse delivered to a ventricle of the heart after the delivered pacing pulse.

36. (Currently amended) The method of claim 60, wherein detecting whether an autonomous intrinsic signal component is present within the heart comprises comparing a ~~past ventricular signal resulting from a past pacing pulse with the ventricular signal resulting from the delivered pacing pulse~~ a T-wave.

37. (Cancelled)

38. (Currently amended) The method of claim ~~[[36]]~~ 60, wherein a past ventricular signal further comprises a most recent ventricular signal resulting from a most recent pacing pulse.

39. (Cancelled)

40. (Currently amended) The method of claim [[39]] 60, wherein the morphological characteristic includes at least one of a minimum amplitude of a signal, a maximum amplitude of a signal, a width of a signal, a slope of a signal, T-wave timing and T-wave amplitude.

41. (Currently amended) A device comprising:

at least one electrode to deliver a ventricular pacing pulse to a heart and sense a ventricular signal response to the delivered pacing pulse; and

a processor that modulates a pacing interval that the ventricular pacing pulse is delivered at to aid in detecting whether an autonomous intrinsic signal component is present within the heart, detects whether an autonomous intrinsic signal component is present within the sensed ventricular response within the heart after delivering the ventricular pacing pulse and extends a pacing interval between the delivered pacing pulse and a subsequently scheduled pacing pulse if the autonomous intrinsic signal component is detected,

wherein detecting whether an autonomous intrinsic signal component is present comprises: comparing a morphological characteristic of a past ventricular signal response to a past pacing pulse known to fully capture the heart to the same morphological characteristic of the sensed ventricular signal response to the delivered pacing pulse;

determining if the same morphological characteristic of the ventricular signal response to the delivered pacing pulse deviates enough from the morphological characteristic of the past ventricular signal to exceed a threshold; and

determining the ventricular signal response to the delivered pacing pulse originates from both autonomous intrinsic ventricular activity and the ventricular pacing pulse in response to the threshold being exceeded.[.]

42. (Currently amended) The device of claim 41, wherein the processor ~~modifies~~ modulates the pacing interval by randomly altering a delivery time of the pacing pulses to aid in detecting whether an autonomous intrinsic signal component is present within the heart.
43. (Currently amended) The device of claim ~~42~~ 41, wherein the processor ~~modifies~~ modulates the pacing interval ~~modifies the pacing interval~~ by modulation of an atrial to ventricular delay.
44. (Currently amended) The device of claim ~~[[42]]~~ 41, wherein the electrode comprises an electrode to deliver a pacing pulse to a ventricle of the heart.
45. (Currently amended) The device of claim 41, wherein the processor detects whether an autonomous intrinsic signal component is present by comparing ~~a past ventricular signal resulting from a past pacing pulse with the ventricular signal resulting from the delivered pacing pulse~~ a T-wave.
46. (Cancelled) The device of claim 45, wherein the processor that compares a past ventricular signal that is representative of a ventricular signal where the heart is fully captured by the past pacing pulse.
47. (Currently amended) The device of claim ~~[[45]]~~ 41, wherein the processor compares a most recent ventricular signal resulting from a most recent pacing pulse.
48. (Cancelled) The device of claim 45, wherein the processor compares at least one morphological characteristic of the past ventricular signal to a same morphological characteristic of the ventricular signal resulting from the delivered pacing pulse.

49. (Currently amended) The device of claim ~~[[48]]~~41, wherein the processor compares at least one of a minimum amplitude of a signal, a maximum amplitude of a signal, a width of a signal, a slope of a signal, T-wave timing and T-wave amplitude.

50. (Previously presented) The device of claim 45, further comprising a memory to store the past ventricular signal.

51. (Currently amended) A computer-readable medium comprising instructions to cause a processor to:

- control a pulse generator to deliver a ventricular pacing pulse to a heart;
modulate a pacing interval modulates a pacing interval that the ventricular pacing pulse is delivered at to aid in detecting whether an autonomous intrinsic signal component is present within the heart

- sense a ventricular signal response to the delivered ventricular pacing pulse;

- detect whether an autonomous intrinsic signal component is present within the sensed ventricular signal response within the heart after delivering the pacing pulse; and

- extend a pacing interval between the delivered pacing pulse and a subsequently scheduled pacing pulse if the autonomous intrinsic signal component is detected

- wherein detecting whether an autonomous intrinsic signal component is present comprises: comparing a morphological characteristic of a past ventricular signal response to a past pacing pulse known to fully capture the heart to the same morphological characteristic of the sensed ventricular signal response to the delivered pacing pulse;

- determining if the same morphological characteristic of the ventricular signal response to the delivered pacing pulse deviates enough from the morphological characteristic of the past ventricular signal to exceed a threshold; and

determining the ventricular signal response to the delivered pacing pulse originates from both autonomous intrinsic ventricular activity and the ventricular pacing pulse in response to the threshold being exceeded..

52. (Currently amended) The computer-readable medium of claim 51, further comprising instructions to cause the processor to ~~modify~~ modulate the pacing interval by randomly altering a delivery time of the pacing pulses to aid in detecting whether an autonomous intrinsic signal component is present within the heart.

53. (Currently amended) The computer-readable medium of claim [[52]], wherein the instructions cause the processor to ~~modulate~~modify the pacing interval by modulation of an atrial to ventricular delay.

54. (Previously presented) The computer-readable medium of claim 51, wherein the subsequently delivered pacing pulse comprises a pacing pulse delivered to a ventricle of the heart after the delivered pacing pulse.

55. (Currently amended) The computer-readable medium of claim 51, wherein the instructions cause the processor to detect whether an autonomous intrinsic signal component is present within the heart by comparing a T-wave a past ventricular signal resulting from a past pacing pulse with the ventricular signal resulting from the delivered pacing pulse.

56. (Cancelled) The computer-readable medium of claim 55, wherein a past ventricular signal comprises a past ventricular signal that is representative of a ventricular signal where the heart is fully captured by the past pacing pulse.

57. (Currently amended) The computer-readable medium of claim [[55]] 51, wherein the past ventricular signal further comprises a most recent ventricular signal resulting from a most recent pacing pulse.

58. (Cancelled) The computer-readable medium of claim 57, wherein the instructions cause the processor to compare the past ventricular signal resulting from the past pacing pulse with the ventricular signal resulting from the delivered pacing pulse by comparing at least one morphological characteristic of the past ventricular signal to a same morphological characteristic of the ventricular signal resulting from the delivered pacing pulse.

59. (Currently amended) The computer-readable medium of claim [[58]]51, wherein a morphological characteristic includes a minimum amplitude of a signal, a maximum amplitude of a signal, a width of a signal, a slope of a signal, T-wave timing and T-wave amplitude.

60. (Currently amended) A method comprising:
delivering a ventricular pacing pulse to a heart;
modulating a pacing interval that the ventricular pacing pulse is delivered at to aid in detecting whether an autonomous intrinsic signal component is present within the heart;
sensing a ventricular signal response to the delivered pacing pulse;
detecting whether an autonomous intrinsic signal component is present within the sensed ventricular signal response to the delivered pacing pulse; and
extending a pacing interval between the delivered ventricular pacing pulse and a subsequently scheduled ventricular pacing pulse if the autonomous intrinsic signal component is detected;
wherein detecting whether an autonomous intrinsic signal component is present comprises: comparing a morphological characteristic of a past ventricular signal response to a past pacing pulse known to fully capture the heart to the same morphological characteristic of the sensed ventricular signal response to the delivered pacing pulse;
determining if the same morphological characteristic of the ventricular signal response to the delivered pacing pulse deviates enough from the

morphological characteristic of the past ventricular signal to exceed a threshold;
and

determining the ventricular signal response to the delivered pacing pulse originates from both autonomous intrinsic ventricular activity and the ventricular pacing pulse in response to the threshold being exceeded.

61. (New) A method comprising:

delivering a pacing pulse to a heart;

modulating a pacing interval by randomly altering a delivery time of the pacing pulse to aid in detecting whether an autonomous intrinsic signal component is present within the heart;

sensing a signal response to the delivered pacing pulse;

detecting whether an autonomous intrinsic signal component is present within the sensed signal response to the delivered pacing pulse; and

extending a pacing interval between the delivered pacing pulse and a subsequently scheduled pacing pulse if the autonomous intrinsic signal component is detected;

wherein detecting whether an autonomous intrinsic signal component is present comprises comparing a morphological characteristic of a past signal response to a past pacing pulse to the same morphological characteristic of the sensed signal response to the delivered pacing pulse.